Seminar/Talk

1D Gross-Pitaevskii equation for strongly confined 3D bosons

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We consider the dynamics of N bosons initially in a Bose-Einstein condensate which are in two dimensions confined by an external trapping potential. The bosons interact with each other via a non-negative interaction potential in the Gross-Pitaevskii scaling regime. We prove that in the simultaneous limit where N goes to infinity and the size of the trap shrinks to zero, the condensation is preserved by the dynamics and the time evolution is asymptotically described by a Gross-Pitaevskii equation in one dimension. Joint work with Stefan Teufel.

Thursday, November 15, 2018 04:00pm - 06:00pm
Big Seminar room Ground floor / Office Bldg West (I21.EG.101)

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